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Attn: Examiner Daniel J. Ryman
Patent Examining Corps
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Alexandria, VA 22313-1450FROM: George H. Gates
OUR REF.: G&C 139.132-US-U1
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| Title of Document Transmitted: | TRANSMITTAL DOCUMENTS (2) AND BRIEF OF APPELLANTS |
| Applicant: | David J. Y. Lee et al. |
| Serial No.: | 09/589,974 |
| Filed: | June 8, 2000 |
| Group Art Unit: | 2616 |
| Title: | ARCHITECTURE OF INTERNET PROTOCOL-BASED CELLULAR NETWORKS |
| Our Ref. No.: | G&C 139.132-US-U1 |

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Due Date: December 26, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: David J. Y. Lee et al. Examiner: Daniel J. Ryman
Serial No.: 09/589,974 Group Art Unit: 2616
Filed: June 8, 2000 Docket: G&C 139.132-US-U1
Title: ARCHITECTURE OF INTERNET PROTOCOL-BASED CELLULAR NETWORKS

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CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 CFR 1.8I hereby certify that this correspondence is being filed via facsimile transmission to the U.S. Patent and Trademark Office on December 26, 2006.By: GAHED
Name: George H. Gates

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P.O. Box 1450
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Dear Sir:

We are transmitting herewith the attached:

- ☒ Transmittal sheet, in duplicate, containing a Certificate of Mailing or Transmission under 37 CFR 1.8.
- ☒ Brief of Appellant(s).
- ☒ Charge the Fee for the Brief of Appellant(s) in the amount of \$500.00 to the Deposit Account.

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G&C 139.132-US-U1

Due Date: December 26, 2006

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:)

Inventor: David J. Y. Lee et al.)

Serial #: 09/589,974)

Filed: June 8, 2000)

Title: ARCHITECTURE OF INTERNET)
PROTOCOL-BASED CELLULAR)
NETWORKS)

Examiner: Daniel J. Ryman

Group Art Unit: 2616

Appeal No.: _____

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BRIEF OF APPELLANTS

MAIL STOP APPEAL BRIEF - PATENTSCommissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR §41.37, Appellants' attorney hereby submits the Brief of Appellants on appeal from the final rejection in the above-identified application as set forth in the Office Action dated October 3, 2006.

Please charge the amount of \$500.00 to cover the required fee for filing this Appeal Brief as set forth under 37 CFR §41.37(a)(2) and 37 CFR §41.20(b)(2) to Deposit Account No. 50-0494 of Gates & Cooper LLP. Also, please charge any additional fees or credit any overpayments to Deposit Account No. 50-0494.

I. REAL PARTY IN INTEREST

The real party in interest is Celco Partnership, the assignee of the present application.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

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III. STATUS OF CLAIMS

Claims 1-12 are pending in the application.

Claims 1, 2, 5, 6, and 9-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791.

Claims 3, 4, 7, and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791, and further in view of Olkkonen, PCT Published Application No. WO 98/43456.

Claims 1-12 are being appealed.

IV. STATUS OF AMENDMENTS

No amendments have been made subsequent to the final Office Action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Appellants' independent claim 1 is directed to an internet protocol-based cellular telephone communications system. (See page 1, lines 11-12 and page 3, lines 3-6.) The internet protocol-based cellular telephone communications system includes: a router (404); a foreign agent (FA) (406) coupled to the router (404); and a base transceiver station (BTS) (408, 410, 412) coupled to the router (404) for communicating with a mobile telephone (414) within a transmission area associated with the base transceiver station (408, 410, 412). (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410, 412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG. 5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.) The router (404) communicates with the base transceiver station (408, 410, 412) using a cellular network interface; and a home agent (HA) (420), coupled to the router (404), wherein the home agent (420) communicates with the router (404) and the foreign agent (406) for registering mobile telephones (414) and transmitting messages using an internet-protocol network separate from the cellular network. (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410, 412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG.

5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.) Messages are transmitted using the internet protocol network between the home agent (420) and the router (404), and messages are transmitted using the cellular network interface between the router (404) and the base transceiver station (408, 410, 412). (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410, 412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG. 5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.)

Appellants' independent claim 6 is directed to an internet protocol-based cellular telephone communications system. (See page 1, lines 11-12 and page 3, lines 3-6.) The internet protocol-based cellular telephone communications system includes: a handoff server (HS) (702); a base transceiver station (BTS) (408, 410, 412), coupled to the handoff server (702), for communicating with a mobile telephone (414) within a transmission area associated with the base transceiver station (408, 410, 412), wherein the handoff server (702) communicates with the base transceiver station (408, 410, 412) using a cellular network interface; and a home agent (HA) (420), coupled to the handoff server (702). (See page 3, lines 3-16; page 14, line 17 through page 15, line 13 referring to 408, 410, 412, 414 and 702 in FIG. 7; page 15, lines 14-21 referring to 408, 410, 412, 414 and 702 in FIG. 8; and 420 shown in both FIGS. 7 and 8.) The home agent (420) communicates with the handoff server (702) for transmitting messages using an internet-protocol network separate from the cellular network. (See 420 and 702 in FIGS. 7 and 8.) Messages are transmitted using the internet protocol network between the home agent (420) and the handoff server (702), and messages are transmitted using the cellular network interface between the handoff server (702) and the base transceiver station (408, 410, 412). (See page 14, line 17 through page 15, line 13 referring to 408, 410, 412, 414 and 702 in FIG. 7; page 15, lines 14-21 referring to 408, 410, 412, 414 and 702 in FIG. 8; and 420 and 702 shown in both FIGS. 7 and 8.)

Appellants' independent claim 12 is directed to a method for communicating over an internet protocol-based communications network. (See page 1, lines 11-12 and page 3, lines 3-6.) A message is sent from a home agent (HA) (420) to a router (406) over an internet protocol based network. (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410,

412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG. 5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.) The message is forwarded from the router (406) to a base transceiver station (BTS) (408, 410, 412) using a cellular network interface, wherein the cellular network is not part of the internet protocol based network. (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410, 412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG. 5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.) The message is forwarded from the base transceiver station (408, 410, 412) to a mobile telephone (414) that is within a geographical communications zone of the base transceiver station (408, 410, 412). (See page 11, line 20 through page 12, line 19 referring to 404, 406, 408, 410, 412 and 414 in FIG. 4; page 13, lines 2-18 referring to 404, 406, 408, 410, 412 and 414 in FIG. 5; and page 13, line 21 through page 14, line 14 referring to 404, 406, 408, 410, 412 and 414 in FIG. 6.)

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 2, 5, 6, and 9-12 are obvious under 35 U.S.C. §103(a) over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791.
2. Whether claims 3, 4, 7, and 8 are obvious under 35 U.S.C. §103(a) as being unpatentable over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791, and further in view of Olkkonen, PCT Published Application No. WO 98/43456.

VII. ARGUMENT

As noted above, claims 1, 2, 5, 6, and 9-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791, while claims 3, 4, 7, and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sicher, in view of Frid, and further in view of Olkkonen, PCT Published Application No. WO 98/43456.

Appellants' attorney respectfully traverses these rejections. Appellants' attorney respectfully submits that Appellants' claimed invention is patentable over the cited references.

Specifically, Appellants' attorney asserts that the references, taken individually or in combination, do not teach or suggest the specific combination of elements recited in Appellants' claims.

A. Arguments Directed To The First Grounds for Rejection: Whether claims 1, 2, 5, 6, and 9-12 are obvious under 35 U.S.C. §103(a) over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791.

1. *Neither Sicher nor Frid disclose messages being transmitted between a home agent, a router and a foreign agent using an IP network separate from the cellular network*

With regard to Appellants' independent claims 1 and 12, the Office Action asserts that the mobile switching center (MSC) of Sicher is a router and the MSC of Sicher communicates with the BTS using a cellular interface.

However, the Office Action admits that Sicher does not expressly disclose a foreign agent (FA), coupled to the router, and a home agent (HA), coupled to the router, wherein the home agent communicates with the router and the foreign agent for registering mobile telephones and transmitting messages using an internet-protocol network separate from the cellular network; wherein messages are transmitted using the internet protocol network between the home agent and the router.

Nonetheless, the Office Action asserts that Frid teaches a home agent communicating with the router and a foreign agent for registering mobile telephones and transmitting messages using an internet-protocol network separate from the cellular network, at col. 1, lines 48-53; col. 6, lines 41-43; and col. 7, lines 15-20.

Appellants' attorney disagrees.

Appellants' attorney first notes that the MSC (Mobile Switching Center) of Sicher is not a router, as defined in Appellants' specification. Instead, Appellants' invention removes the MSC from the architecture, and replaces the BSC (Base Station Controller) with a router that interfaces to the BTS (Base Station Transceiver). See, e.g., Appellants' specification at page 11, lines 21-23.

Similarly, Frid also refers to a VMSC (Visited Mobile Switching Center) 40, but not a router as recited in Appellants' claimed invention.

Moreover, Frid states, in conjunction with FIG. 3, that each VMSC 40 is associated with a foreign agent (FA) 310, wherein the FA 310 is equipped with a serving router (SR) for routing packet data to the appropriate destination nodes. Consequently, the routing function in Frid is performed by the FA/SR 310, not the VMSC 40.

U.S. Patent Oct. 24, 2000 Sheet 3 of 10 6,137,791

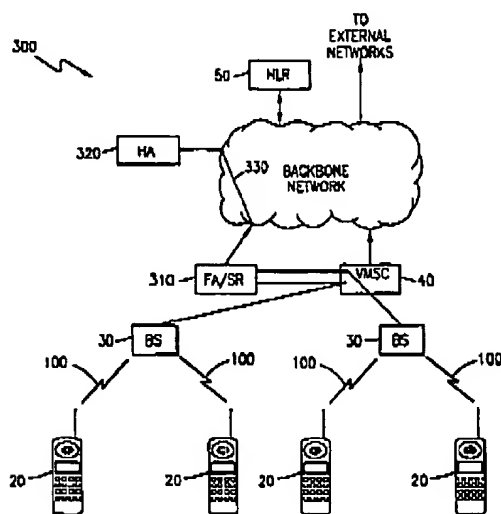


FIG. 3

In addition, as shown in FIG. 3, communication occurs directly between the VMSC 40 and FA/SR 310, without traversing the backbone network. The FA/SR 310 then communicates with a home agent (HA) 320 by means of an IP tunnel 330 through the backbone network.

However, there is no indication that the VMSC 40 is coupled to or communicates directly with the HA 320 through the backbone network. Instead, there is only communication between the FA/SR 310 and HA 320 through the backbone network, with the FA/SR 310 forwarding the data to the VMSC 40. Consequently, there is no need for the VMSC 40 in Frid to include a routing function.

2. *Neither Sicher nor Frid disclose messages being transmitted between a home agent and a handoff server using an IP network separate from the cellular network*

A similar argument can be made with regards to Appellants' independent claim 6.

The Office Action asserts that, incorporating the rejection of claims 1 and 12, Sicher in view of Frid discloses each limitation of claim 6, as outlined in the rejection of claims 1 and 12, except that the Office Action also asserts that "router" (MSC) is a "handoff server." The Office Action further asserts that Sicher in view of Frid discloses that the MSC is involved in the handoff, at col. 7, lines 51-60 of Frid.

Appellants' attorney disagrees.

Appellants' attorney notes that the MSC (Mobile Switching Center) of Sicher is not a handoff server, as defined in Appellants' specification. As noted above, Appellants' invention removes the MSC from the architecture, and replaces the BSC (Base Station Controller) with a router that interfaces to the BTS (Base Station Transceiver). See, e.g., Appellants' specification at page 11, lines 21-23. In another embodiment, the hand-off server as a replacement for the router in Appellants' invention. See, e.g., Appellants' specification at page 14, lines 17-18.

Similarly, Frid also refers to a VMSC (Visited Mobile Switching Center) 40, but not a handoff server as recited in Appellants' claimed invention.

Moreover, Frid states, in conjunction with FIG. 3, that each VMSC 40 is associated with a foreign agent (FA) 310, wherein the FA 310 is equipped with a serving router (SR) for routing packet data to the appropriate destination nodes. Consequently, the routing function in Frid is performed by the FA/SR 310, not the VMSC 40.

In addition, as shown in FIG. 3, communication occurs directly between the VMSC 40 and FA/SR 310, without traversing the backbone network. The FA/SR 310 then communicates with a home agent (HA) 320 by means of an IP tunnel 330 through the backbone network.

However, there is no indication that the VMSC 40 is coupled to or communicates directly with the HA 320 through the backbone network. Instead, there is only communication between the FA/SR 310 and HA 320 through the backbone network, with the FA/SR 310 forwarding the data to the VMSC 40. Consequently, there is no need for the VMSC 40 in Frid to include a routing function.

3. Summary

Thus, Appellants' attorney submits that independent claims 1, 6, and 12 are allowable over the references. Further, dependent claims 2, 5 and 9-11 are submitted to be allowable over the references in the same manner, because they are dependent on independent claims 1, 6, and 12, respectively, and thus contain all the limitations of the independent claims.

B. Arguments Directed To The Second Grounds for Rejection: Whether claims 3, 4, 7, and 8 are obvious under 35 U.S.C. §103(a) as being unpatentable over Sicher, U.S. Patent No. 6,385,195, in view of Frid, U.S. Patent No. 6,137,791, and further in view of Olkkonen, PCT Published Application No. WO 98/43456.

1. *Olkkonen does not overcome the deficiencies of Sicher or Frid*

Olkkonen does not overcome these deficiencies of Sicher and Frid. Recall that Olkkonen was cited only against Appellants' dependent claims 3, 4, 7 and 8, and only for teaching the use of ATM in cellular telephony. Thus, even when combined, Sicher, Frid and Olkkonen do not teach all the elements of Appellants' independent claims. As a result, Appellants' attorney submits that dependent claims 3, 4, 7 and 8 are allowable over the references in the same manner, because they are dependent on independent claims 1 and 6, respectively, and thus contain all the limitations of the independent claims.

VIII. CONCLUSION

In light of the above arguments, Appellants' attorney respectfully submits that the cited references do not anticipate nor render obvious the claimed invention. More specifically, Appellants' claims recite novel physical features which patentably distinguish over any and all references under 35 U.S.C. §§ 102 and 103.

As a result, a decision by the Board of Patent Appeals and Interferences reversing the Examiner and directing allowance of the pending claims in the subject application is respectfully solicited.

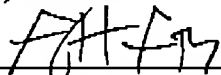
Respectfully submitted,

GATES & COOPER LLP
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Date: December 26, 2006

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By: 
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CLAIMS APPENDIX

1. (PREVIOUSLY PRESENTED) An internet protocol-based cellular telephone communications system, comprising:

a router;

a foreign agent (FA), coupled to the router;

a base transceiver station (BTS), coupled to the router, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the router communicates with the base transceiver station using a cellular network interface; and

a home agent (HA), coupled to the router, wherein the home agent communicates with the router and the foreign agent for registering mobile telephones and transmitting messages using an internet-protocol network separate from the cellular network;

wherein messages are transmitted using the internet protocol network between the home agent and the router, and messages are transmitted using the cellular network interface between the router and the base transceiver station.

2. (ORIGINAL) The cellular telephone communications system of claim 1, further comprising a second BTS, wherein a handoff between the BTS and the second BTS is performed through the internet protocol network.

3. (ORIGINAL) The cellular telephone communications system of claim 2, wherein a soft hand off (SHO) is performed between the BTS and the second BTS using asynchronous transfer mode (ATM) communications between the router and the BTS and the router and the second BTS.

4. (ORIGINAL) The cellular telephone system of claim 3, wherein the SHO is performed using ATM between the BTS and the second BTS and the mobile telephone.

5. (ORIGINAL) The cellular telephone communications system of claim 1, wherein the HA directs a message to the mobile telephone using an internet protocol address.

6. (PREVIOUSLY PRESENTED) An internet protocol-based cellular telephone communications system, comprising:

a handoff server (HS);

a base transceiver station (BTS), coupled to the handoff server, for communicating with a mobile telephone within a transmission area associated with the base transceiver station, wherein the handoff server communicates with the base transceiver station using a cellular network interface; and

a home agent (HA), coupled to the handoff server, wherein the home agent communicates with the handoff server for transmitting messages using an internet-protocol network separate from the cellular network;

wherein messages are transmitted using the internet protocol network between the home agent and the handoff server, and messages are transmitted using the cellular network interface between the handoff server and the base transceiver station.

7. (PREVIOUSLY PRESENTED) The cellular telephone communications system of claim 6, wherein the cellular network interface is asynchronous transfer mode (ATM).

8. (ORIGINAL) The cellular telephone communications system of claim 6, wherein the BTS communicates with the mobile telephone using asynchronous transfer mode (ATM).

9. (ORIGINAL) The cellular telephone communications system of claim 6, wherein a handoff of a mobile telephone between the BTS and a second BTS within the cellular telephone communications system is handled through the handoff server.

10. (ORIGINAL) The cellular telephone communications system of claim 9, wherein the mobile telephone communicates directly through the handoff server during the handoff between the BTS and the second BTS.

11. (ORIGINAL) The cellular telephone communications system of claim 6, wherein a handoff between the BTS and a second BTS is anchored through the first BTS until updates can be made at the HA.

12. (PREVIOUSLY PRESENTED) A method for communicating over an internet protocol-based communications network, comprising:

sending a message from a home agent (HA) to a router over an internet protocol based network;

forwarding the message from the router to a base transceiver station (BTS) using a cellular network interface, wherein the cellular network is not part of the internet protocol based network; and

forwarding the message from the base transceiver station to a mobile telephone that is within a geographical communications zone of the base transceiver station.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.